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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,879	01/23/2006	Naoyuki Takamatsu	72096	7943
23872	7590	05/02/2007		
MCGLEW & TUTTLE, PC P.O. BOX 9227 SCARBOROUGH STATION SCARBOROUGH, NY 10510-9227			EXAMINER GOUDREAU, GEORGE A	
			ART UNIT 1763	PAPER NUMBER
			MAIL DATE 05/02/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,879

Applicant(s)

TAKAMATSU

Examiner

George A. Goudreau

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

George A. Goudreau
GEORGE GOUDREAU
PRIMARY EXAMINER
4-071

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

1. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-In line 6 of claim 1, the phrase "...almost an sphere as a main component and further an organic bases..." is confusing, and should be reworded.;

-In the claims, the usage of the term "almost" is vague, and indefinite.;

-In claim 3, the phrase "...silica as a main component and further an organic base..." is written in a confusing manner, and should be reworded. (i.e.-Is applicant attempting to recite at least 50 wt. % silica based cmp slurry? What is meant by the term "main component"?;

-In claim 6, applicant's referral to the dispersion state of silica in reference to the maximum particle diameter is confusing. (i.e.-How is the silica particle diameter measured in the other claims in which no mention is made as to whether the silica particle is in the dispersion state? What constitutes being in the dispersion state? Wouldn't any solution, which contains silica particles inherently, have them in a dispersion state? Thus, how does the wording used in claim 6 in this regard distinguish over that used in the other claims in regard to the recited particle diameter for the silica particles?);

-The wording used in claim 10 is written in a very confusing manner, and should be reworded.; and

-The wording used in claim 12 is written in a very confusing manner, and should be reworded.

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2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Brewer et. al. (6,322,600).

Brewer et. al. disclose a method for cmp polishing a dielectric layer on the surface of a wafer using a cmp slurry which is comprised of spherical silica abrasive particles with a diameter of (30 nms. –400 nms.). The cmp slurry has a pH of about (9-11.5), and contains about (0.2-9) wt. % of an amine hydroxide (i.e.-an organic base). The amine hydroxide compound may be tetramethylammonium hydroxide. This is discussed specifically in the abstract; and discussed in general in columns 1-24. This is shown in figures 1-7.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7, 10, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference as applied in paragraph 3 above.

The reference as applied in paragraph 3 above fail to disclose the following aspects of applicant's claimed invention:

- specific cmp polishing parameters, which are claimed by the applicant; and
- the specific usage of an unwoven type polishing cloth with the specific Asker hardness, which is claimed by the applicant

It would have been obvious to one skilled in the art to employ an unwoven polishing cloth as the polishing pad in the cmp polishing process, which is taught above, based upon the following. The usage of such a polishing pad is conventional or at least well known in the cmp polishing arts. (The examiner takes official notice in this regard.) Further, this simply represents the usage of an alternative, and at least equivalent means for conducting the cmp polishing process, which is taught above to the specific means, which are taught above.

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It would have been prima facie obvious to employ any of a variety of different cmp polishing parameters in the cmp polishing process which is taught above including those which are specifically claimed by the applicant. These are all well-known variables in the plasma etching art, which are known to affect both the rate and the quality of cmp process. Further, the selection of particular values for these variables would not necessitate any undo experimentation, which would have been indicative of unexpected results.

Alternatively, it would have been obvious to one skilled in the art to employ the specific process parameters which are claimed by the applicant in the cmp polishing process which is taught above based upon *In re Aller* as cited below.

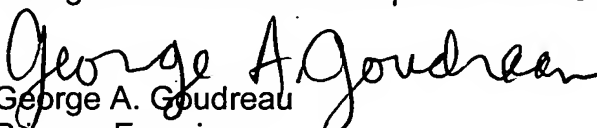
Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. ≡ In re Aller, 220 F. 2d 454, 105 USPQ 233, 235 (CCPA).

Further, all of the specific process parameters, which are claimed by the applicant, are results affective variables whose value are known to affect both the rate, and the quality of the cmp polishing process.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number (571)-272-1434.


George A. Goudreau
Primary Examiner
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